

REMARKS

Claims 29 and 38 are pending in the application. Claims 29 and 38 have been amended to further clarify the presently-claimed invention. No new matter has been introduced. It is believed that no new issue is raised requiring further search or consideration, and entry of the above revised claims is respectfully requested.

Telephonic Interview Held On February 2, 2011

Applicants' representative thanks the Examiner for courtesies extended during the interview held on February 2, 2011. The §112, first paragraph rejection was discussed.

Suggestion to remove "IL-15 protein" in the claims was favorably received by Examiner to address the New Matter rejection. No agreement was reached.

Rejection Under 35 U.S.C. §112, first paragraph

Claims 29 and 38 have been rejected under 35 U.S.C. §112, first paragraph, for adding new matter to the application. The Examiner states that "ferritin H chain gene and IL-15 protein" is not described in the Specification. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested. Claims 29 and 38 have been amended to remove "IL-15 protein". Therefore, Applicants believe that this rejection has been overcome.

Rejection Under 35 U.S.C. §112, first paragraph

Claims 29 and 38 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The Examiner states that Dr. Choi's Declaration submitted October 27, 2010 does not address using ferritin H gene. Rather, Dr. Choi's Declaration uses ferritin H protein, and therefore does not provide enabling disclosure of using ferritin H gene. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

Applicants provide the following explanation of why using ferritin H protein as described in Dr. Choi's Declaration suffices and is predictive of effects using ferritin H gene. Example 5 in the present application shows that ferritin H chain is "exceptionally expressed" in premature NK cell (Table 4). In other words, ferritin H protein is present in the pNK cells, and thus the ferritin H protein may be considered to have been "administered" to the cell.

By way of predicting whether expression of ferritin H gene would provide similar results as administering ferritin H protein, the Examiner's attention is directed to Example 7 in the present application, in which administration of LPL is discussed. Example 7 discloses that LPL protein is overexpressed in pNK cells, just as ferritin H is overexpressed in these cells. Example 7 shows that treatment of cells with LPL protein promotes NK cell differentiation. Therefore, the differentiation inducing effects of administering LPL protein is seen to correlate with the differentiation inducing effects of overexpression of LPL in the cells. Similarly, since both LPL and ferritin H are overexpressed in pNK during NK cell differentiation, it would be scientifically reasonable to conclude that the differentiation inducing activity of ferritin H gene would be predictable from the results regarding the effects of ferritin H protein experimentation, as indicated in Dr. Choi's Declaration, which shows that the induction of differentiation is promoted with the treatment of ferritin H chain protein. Therefore, the presently claimed invention is fully enabled by the present application.

Conclusion

It is believed that the application is now in condition for allowance. Applicant requests the Examiner to issue a notice of Allowance in due course. The Examiner is encouraged to contact the undersigned to further the prosecution of the present invention.

The Commissioner is hereby authorized to charge JHK Law's Deposit Account No. **502486** for such fees required under 37 CFR §§ 1.16 and 1.17 and to credit any overpayment to said Deposit Account No. **502486**.

Respectfully submitted,

JHK Law

Dated: March 29, 2011

By: /Joseph Hyosuk Kim/
Joseph Hyosuk Kim, Ph.D.
Reg. No. 41,425

P.O. Box 1078
La Canada, CA 91012-1078
(818) 249-8177 x101 – direct
(818) 249-8277 - fax